population numbers, trends, geographic distribution, or any quantifiable information on the amount and quality of existing habitat for a single species of wildlife or aquatic life, including 50 species of special concern, as well as listed and candidate species for the Endangered Species Act (ESA). Both the U.S. Fish and Wildlife Service and Montana Department of Fish, Wildlife and Parks commented on the lack of baseline data and the fact that such data gaps would make it impossible to quantify the impacts of CBM development on any species of wildlife or aquatic life. Without this baseline data, there is no way to quantify the cumulative impacts on particular species of wildlife or aquatic life, therefore BLM has failed to comply with NEPA.

BLM also violated 40 C.F.R. 1502.22 by not dislosing its lack of information on popluation numbers, trends, distribution, and the amount, location, and quantity of available habitat for most species of wildlife and aquatic life; and by not collecting data for this analysis.

Not surprisingly, the 2003 FEIS/RMP fails to quantify the cumulative impacts of methane development on a single species of wildlife or aquatic life. Instead, BLM describes the types of impacts on wildlife and aquatic life under Alternative A (no action) and then states the obvious: Impacts from the four action alternatives in Montana and from methane development in Wyoming would be greater because there will be more development. *FEIS 4-171, 4-181.* These general statements regarding cumulative impacts do not constitute the hard look required by NEPA. Cuddy Mountain, 137 F.3d at 1376.

The 2003 FEIS/RMP fails to evaluate the impacts of discharges, including increased bicarbonate and ammonia levels, on aquatic life despite BLM and MDFWP concerns about such impacts. As you are aware, MDFWP has proposed a draft criteria for bicarbonate to protect aquatic life. Since the BLM signed the ROD in April of 2003, significant new information has emerged indicating that methane discharges potentially pose both acute and chronic toxicity issues for aquatic life. This new information includes numerous Whole Effluent Toxicity (WET) failures by several companies' discharges, including Fidelity Exploration & Production Company (FEPCO) in Montana and Andadarko Petroleum Company in Wyoming. BLM needs to consider this new information and evaluate the potential impacts of such discharges on aquatic life. This analysis should include isolating the pollutants likely causing the toxicity.

V. Miscellaneous Issues

A. Down-Hole Separation Pilot Project

BLM needs to consider requiring a pilot project to test the feasibility of downhole separation technology in the Basin as a mitigation measure or alternative means of development the methane resource. Down hole separation is an evolving technology in the early stages of field testing. There are several different types of down hole separation used for gas/water separation that hold the potential of minimizing the environmental risks associated with methane wastewater.

Down hole separation utilizes specially designed pumps that separate wastewater and gas by centrifugal or gravitational forces within the well bore or in the subsurface formation. These pumps can be used to lift fluids or reversed to inject fluids. Natural gravity separation occurs within the well as water settles to the bottom and the gas rises to the water surface. Gas is extracted while the remaining water is pumped into a deeper receiving formation through a separate injection line, provided that the down hole pump, or hydro-cyclone, is carefully located at the correct depth in the well. This system requires that there be an adequate receiving formation with adequate separation between it and the producing formation.

Only a small amount of produced water, about 3%, actually reaches the surface. This could almost eliminate the need for impoundment structures, water treatment facilities, and could greatly reduce production costs for gas producers and surface soil and water impacts. *See* Document 1, Exhibit K and L discussing findings of Dougherty 2000 and Classroom Energy 2003. This technology is still in the development and testing stage.

Cyclotech has developed an in-line auger (gas/liquid separator) that is designed to remove a major portion of free gas from production well fluids. The result is a dryer gas which is easier and cheaper to lift to the surface because there is less frictional and heat pressures produced by dense liquid phases. *Id.* Roughrider Water's Sahara down-hole water and gas filter is capable of production at depths of 500 to 1,000 ft below surface with bottom-hole pressures up to 100 psi. Test wells have been in operation for more than 13,000 hours without down time. *Id.*

If down hole separation technology is shown to be technologically feasible, it could potentially eliminate methane wastewater and reduce production costs for methane producers.

B. Relationship and Coordination with Ongoing RMP Revision

Early this year, BLM conducted scoping for its proposal to amend the Resource Management Plans for the Powder River and Big Dry Resource Areas. BLM needs to explain how it intends to coordinate this supplement process with the ongoing RMP revision.

VI. Closing

Northern Plains and its members remain deeply skeptical of BLM's sincerity in this NEPA process. Northern Plains is not encouraged by the fact that BLM makes no mention of its sister co-lead agencies in the 2003 FEIS/RMP process, MDEQ and MBOGC, in the Notice of Intent for this supplement. As discussed herein, it is simply impossible for BLM to adequately consider the cumulative impacts of methane development, including but not limited to the Tongue River Railroad, and a spectrum of phased development alternatives, without working closely with and in a cooperative fashion with these Montana agencies.

Once again, it appears as if BLM intends to adopt its "go it alone" attitude and not even bother to solicit the input of sister federal and state agencies, including its sister co-lead agencies in the 2003 FEIS/RPM process. In this atmosphere, Northern Plains is not optimistic that its comments will ever be read much less considered by BLM in this NEPA process. This administration should be well aware of the ramifications of such an approach by now.

The fact that BLM is cavalierly willing to engage in this behavior once again reflects an utter disregard for its responsibilities under the NEPA, FLPMA, CWA, and CAA-the Nation's bedrock conservation and pollution prevention laws. BLM's behavior also reflects an utter disregard for the concerns of the ranchers and irrigators whose private property and livelihood will be most directly impacted by methane development.

Northern Plains has been honest with BLM regarding its consistent position that methane development be done responsibly and in a manner that does not leave the Basin's scarce rivers polluted and aquifers depleted, wells and springs dried up, and farming and ranching communities devastated, and wildlife habitat fragmented for generations to come.

In response to a question about the then pending national energy legislation, a BLM spokesperson in Colorado recently stated that "regardless of what changes may be in store, local areas will have to assume some of the impacts of energy development." She said "these kinds of sacrifices are necessary in order for the U.S. to become less dependent on foreign energy sources."

If BLM intends to have the ranchers and the irrigators of the Basin sacrifice their ranches, their farms, their air quality, their wells and springs, their alfalfa fields and hay meadows, their quiet solitude, their air quality, their hunting and fishing heritage, their way of life, and their children and granchildrens' futures to allow the methane resources of the Basin to be developed as fast as possible and make the U.S. more dependent on foreign sources of natural gas in the future, BLM needs to be honest about its intentions. More important, BLM needs to drop its lip service to protecting the environment and be honest that it cares only about maximizing methane production from federal leases in the Basin regardless of the irreparable impacts of such development on the other resources of the Basin.

The people that have made their living in this often times harsh and unforgiving land since the Basin was homesteaded in the 1800s deserve nothing less.

On the other hand, if BLM committed to collaboration, coordination, cooperation, and consultation, Northern Plains remains committed to working with BLM to develop and adopt an alternative that will ensure responsible methane development in the Basin.

Sincerely,

Mark Fix
Chair, Northern Plains Resource Council Coal Bed Methane Task Force

Michael Reisner
Counsel for Northern Plains Resource Council

Attorneys at Law
Reynolds, Motl and Sherwood
A Professional Limited Liability Partnership

Linda M. Deola
Chance Gulch
Brenda Lindlief Hall
Jonathan R. Motl
James P. Reynolds
443-7294 Frederick F. Sherwood
email: bllh@rmslaw.net
Deborah S. Smith
David K.W. Wilson, Jr.

401 North Last
Helena, Montana 59601
(406) 442-3261
Fax (406)

September 2, 2005

Bureau of Land Management
Attn: Mary Bloom
111 Garryowen Road
Miles City, MT 59301
(406) 233-2921 (fax)
mtseis@blm.gov

VIA EMAIL AND REGULAR MAIL

Re: Comments on Supplemental/Amended Montana Statewide Oil and Gas EIS-Federal Register Notice of August 5, 2005 (Vol. 70, No. 150, p. 45417

Dear Ms. Bloom:

Following are the formal comments of the Tongue River Water Users' Association on the supplemental/amended Montana Statewide Oil and Gas Environmental Impact Statement to be prepared pursuant to order of the U.S. District Court for the District of Montana.

I. Phased Development Issues That Must be Carefully Considered

The Tongue River Water Users' Association (TRWU) believes that phased development of coal bed methane (CBM) resources in Montana is essential for numerous reasons. Phased development will allow time to assess the impacts in discrete, smaller areas before proceeding with development in other areas, which is critical because of the enormous risks to natural resources posed by CBM development. Phased development will allow for planned disposal of CBM wastewater, and will mean that less produced water must be disposed of at any given time. CBM wastewater discharges that are being dumped directly into Montana's rivers, including the Tongue River and its tributaries, carry immense risks for irrigators as well as for aquatic life. The impacts of direct discharges are not yet fully known, but it is widely recognized that direct discharges to rivers raises the sodium adsorption ratio (SAR) and electrical conductivity (EC) of the rivers. The TRWU is already seeing an increase in the SAR and EC of the Tongue River. Full field development will mean that the increases already being seen will be magnified, and may result in serious adverse impacts to soils and crops. Phased development could help mitigate some of the adverse impacts. Additionally, phased development may allow for reinjection of produced water into aquifers that have been dewatered by prior development. Phased development will also allow time to see what impact surface impoundments for storing CBM produced water will have on soils, groundwater, interference with rainfall and snowmelt reaching natural drainages and rivers, as well as the potential increase of west nile virus and other stagnant water borne diseases. All of the above issues should be carefully and completely analyzed.

II. Protection of Surface Water Resources Through The Application of Effluent Limitations And Best Available Technology Must Be Analyzed

Effluent limitations and the application of the best available technology (BAT) are required for CBM discharges pursuant to the federal Clean Water Act and the Montana Water Quality Act. The SEIS must therefore take a *hard look* at all available effluent limitations, including reducing quantities of CBM produced water discharges, reducing flow rates of CBM produced water discharges into surface waters, and reducing the concentration of pollutants discharged from point sources into surface waters. The SEIS should include a complete analysis of reinjection and treatment of CBM produced water. There are a number of identified methods for treating CBM produced water, including, ion exchange, reverse osmosis, and freeze-thaw evaporation (FTE). A discussion of some of the treatment methods is found in the Handbook On Coal Bed Methane Produced Water: Management and Beneficial Use Alternatives, (2003) prepared by All Consulting of Tulsa, Oklahoma, and prepared for the Groundwater Protection Research Foundation, the U.S. Department of Energy, National Petroleum Technology Office, and the Bureau of Land Management.

III. Impacts to Montana's Surface and Groundwater Resources From Wyoming CBM Development Must Be Fully Analyzed

The impacts that Wyoming CBM development is having on surface and groundwater in Montana have not been adequately analyzed, to the best of the TRWU's knowledge. Given the vast scale of CBM development in Wyoming, the impacts that discharges to surface waters upstream in Wyoming are having on Montana's surface waters must be thoroughly analyzed in the cumulative effects analysis. Additionally, The impacts that groundwater drawdown in Wyoming is having on Montana's groundwater resources must be fully analyzed in the cumulative effects analysis. There is ample evidence in Wyoming showing that CBM development has dried up numerous water wells just across the Montana border. The cumulative effects of CBM development in Wyoming and Montana is a critical issue that requires an in depth analysis. Many, if not most, farmers and ranchers rely on groundwater wells for domestic use, as well as for stock watering. Mitigation agreements only provide after-the-fact remedies, and are only good if there is other water available to tap into when the wells dry up. Additionally, as with any contract, water mitigation agreements are only as good as the people/companies behind them. Under a full field development scenario, there may not be other water sources available to fulfill mitigation agreements, and the companies behind the agreements may not be in existence to provide the promised water. Our groundwater resources are to precious to gamble away. Ways to mitigate the loss of Montana's finite groundwater resources must be seriously considered.

IV. Impacts to Aquatic Life Must be Comprehensively Analyzed

Finally, TRWU requests that the impacts to aquatic life be fully addressed. The effects of sodium bicarbonate, increased electrical conductivity, increased sodium adsorption ratio, and other characteristics and constituents of CBM produced water on fish and macroinvertebrates have not been addressed, despite that the Tongue River reservoir and the Tongue River below the dam are thriving fisheries and spawning areas. Scientific studies showing a decrease in macroinvertebrates since CBM development began in Montana is available from various sources, including Bernie Smith, a science at teacher at Colstrip High School. Impacts to aquatic life must be fully analyzed.

Thank you for the opportunity to comment on these serious issues.

Sincere Regards,

Brenda Lindlief Hall, Attorney
On Behalf of the
Tongue River Water Users' Association

EARTHJUSTICE

BOZEMAN, MONTANA DENVER, COLORADO HONOLULU, HAWAII
INTERNATIONAL JUNEAU, ALASKA OAKLAND, CALIFORNIA
SEATTLE, WASHINGTON TALLAHASSEE, FLORIDA WASHINGTON, D.C.
ENVIRONMENTAL LAW CLINIC AT STANFORD UNIVERSITY

File # 551
September 2, 2005

VIA ELECTRONIC MAIL (mtseis@blm.gov) AND CERTIFIED MAIL/RETURN RECEIPT 7003 2260 0003 4685 3797

U.S. Bureau of Land Management
Miles City Field Office
Attn: Mary Bloom, SEIS/Amendment Comments
111 Garryowen Road
Miles City, MT 59301

Scoping Comments in Response to BLM's Notice of Intent to Prepare a Supplement to the Statewide Oil and Gas Final Environmental Impact Statement and Amendment of the Powder River and Billings Resource Management Plans

Dear Ms. Bloom,

This letter provides the scoping comments of the Western Organization of Resource Councils, Natural Resources Defense Council, Powder River Basin Resource Council and Wyoming Outdoor Council (collectively "WORC") concerning the Supplemental Environmental Impact Statement and Resource Management Plan Amendment ("SEIS") for the 2003 Oil and Gas Final Environmental Impact Statement and Amendment of the Powder River and Billings Resource Management Plans ("2003 EIS") announced in 70 Fed. Reg. 45417 (August 5, 2005).

According to the Notice of Intent, "[t]he purpose of the public scoping period is to help BLM define 'phased development' and to identify relevant issues that should be considered and analyzed in the SEIS/Amendment, in addition to [the Tongue River Railroad and water well mitigation agreements]." 70 Fed. Reg. 45417 (August 5, 2005).

In these comments, WORC will first "help the BLM define 'phased development'" and identify various mechanisms by which the agency can implement such development. WORC will also demonstrate why a phased development alternative should be the BLM's preferred alternative for developing CBM in Montana. Last, WORC will assist BLM "identify relevant issues that should be considered and analyzed in the SEIS/Amendment" in addition to those two identified in the scoping notice.

I. PHASED DEVELOPMENT.

A. What Phased Development Is.

Phased or staged development is a concept that involves landscape-wide planning of the timing and location of development so as to prevent and mitigate environmental and societal harm. At its core, phased development entails an overarching plan of development that spreads out the harms created by CBM development over time and over a geographic area so that other uses and values of the land, including for example ranching and wildlife habitat, can be sustained both during and after the lifetime of CBM extraction.

The scoping comments of sister agencies on the 2003 EIS demonstrates that the purpose of phased development is to spread out development over time so as to reduce environmental and societal impacts. The U.S. Environmental Protection Agency ("EPA") in its scoping comments for the 2003 EIS, asked that BLM consider a "phased development alternative." EPA explained that "[a]n alternative that incorporates a phased development of coal-bed methane could help reduce the significance of impacts by spreading them out over a period of time." *See* EPA's Scoping Comments for the Oil and Gas Resource Management Plan Amendment and Montana Statewide Environmental Impact Statement, attached as Exh. 1, at 5.

Comments from the Montana Department of Fish, Wildlife and Parks ("FWP") also emphasized that phased development meant spreading impacts over time. The agency also commented that phased development would also be necessary to provide for effective adaptive management strategies. FWP stated that it:

> believes that an action alternative capable of reducing or minimizing negative impacts to fish and wildlife resources must rely on phased development over time. A phased approach would allow the responsible agencies to evaluate the effects of development on existing land uses and natural and cultural resources and through a deliberative adaptive management process, devise strategies to prevent or reduce the detrimental effects of future development found to be irreparable or [not capable of mitigation].

See Letter from Montana Fish, Wildlife and Parks Providing Comments on Draft Chapter 2 and 4 of the Coal Bed Methane EIS, attached as Exh. 2, at 2. The Montana District Court likewise noted that "a phased development alternative approach fits hand-in-hand with the adaptive management approach BLM subscribes to throughout the FEIS." *NPRC v. BLM*, No. CV 03-69-BLG-RWA (D. Mont. February 25, 2005) and *Northern Cheyenne Tribe v. BLM*, No. CV 03-78-BLG-RWA (D. Mont. February 25, 2005) ("*NPRC/Tribe* Order on Merits") at 19.

B. What Phased Development is Not.

BLM has asserted in the past that because not all the wells permitted by the 2003 EIS would be drilled simultaneously, phased development was already built into the 2003 EIS.[1] That is not what phased development means. The EPA expressly refuted BLM's attempt to characterize its 2003 EIS as containing phased development in its comments on the preliminary EIS:

> 3. Agencies need to develop an alternative for phased-in development

[1] It is obvious that not all the CBM wells considered in the EIS would be drilled instantaneously. Rather, the number of wells drilled in any given year under the 2003 EIS would have been dependent upon factors such as the price of natural gas, the availability of drilling rigs, and the speed at which companies and the BLM could process permits.

3. Response: Phased-in development is already part of the reasonable foreseeable development scenario that the preferred alternative analysis is based upon (see Figure MIN-4 in the Minerals Appendix). It is reasonable to assume phased development for Montana as there is no infrastructure in place.

Organizations that requested consideration of a phased alternative were requesting consideration by BLM and the State of phasing their decisions in a manner that obligated the producers to either pace their development to avoid boom and bust cycles or for producers to move across the production zone to allow for water reinjection into previously produced zones. The response is unresponsive to that substantive comment since it simply notes that industrial activities may be incrementally be constructed in order to complete necessary infrastructure.

See EPA Region 8 comments on the draft Chapter 5, Consultation and Coordination, excerpts attached as Exh. 3, at 2. As EPA said, the 2003 EIS's plan to leave the timing and geographic scope of CBM development entirely dependent on the needs and desires of industry does not constitute phased development, which entails planning time and geographic scope of development so as to reduce environmental and societal impacts.

C. Implementing Phased Development.

In fact, that argument is refuted by the 2003 EIS itself. The BLM in the 2003 EIS implicitly recognized that phased development entails planning for development and spreading it out over time and geography. The 2003 EIS briefly mentioned three means by which it might implement phased development:

> First, the number of rigs in the emphasis area could be controlled and leases would be developed in stages. Second, the companies would be allowed to develop production in one geographic area at a time and when complete, move to another. Lastly, corridors could be left undeveloped to allow for wildlife movement.

2003 FEIS at 2-4. These three concepts are good places to start for various reasons.

1. **Developing leases in stages** could help to reduce impacts to surface resources such as air, water and wildlife. In this phased development of leases, it would be imperative that before moving on to the next phase, the prior phase of the lease that is developed not only be reclaimed, but actually restored to its fully functioning capacity to support the economic and ecosystem values it supported before development. Phased development of leases would also provide the BLM and other agencies an opportunity to gather information to use in adaptive management to assess the impacts of the earlier phase, and if advisable, change the manner in which the next phase is done to address those impacts.

2. **Developing one geographic area at a time** could also prevent or mitigate some surface impacts. By clustering development in one geographic area, development could be planned in such a way as to utilize common infrastructure such as roads, powerlines, and pipelines. The facilitation of common infrastructure could provide more incentive to use electricity to power pumps and other infrastructure, thereby decreasing air emissions. Developing one geographic area at a time could also facilitate the reinjection of water from that area into depleted coal seam aquifers in that area or elsewhere.

3. **Leaving corridors undeveloped to allow for wildlife movement** is a very good idea that should be considered in the SEIS, but this is not phased development.[2] In contrast, phased development to protect wildlife populations and habitat would need to concentrate on limiting the geographic and temporal scope of development in a given area in ways designed to leave enough habitat for species to coexist with development at each point in time during the life of the project, from drilling through extraction to reclamation.

In addition to these concepts, BLM should consider the following in developing phased development alternatives:

1. **Develop one coal seam at a time:** Developing one coal seam at a time, with proper monitoring of the impacts to aquifers both above and below the target aquifer, is the best way to ensure that groundwater impacts can be monitored and mitigated. Such development would aid in adaptive management, in that it would provide information regarding groundwater recharge, inter-aquifer flow, and fluctuations in water quality. In addition, adopting the one seam at a time approach provides an opportunity to inject produced water from one coal seam into another that has already been dewatered, thereby preserving groundwater resources and minimizing surface impacts from the disposal of produced water. Indeed, WORC believes that reinjection of water to reduce both groundwater aquifer loss and impacts from disposal of CBM wastewater on the surface should be a part of any phased development alternative.

2. **Clean up as you go:** Operators should be required, consistent with applicable law and lease terms, to fully reclaim disturbed areas prior to moving on to the next phase of development. Phased development of this type would provide that lands would be fully reclaimed to a pastoral landscape supporting a variety of uses before other areas are disturbed. This would also provide adaptive management benefits, in that information gained from earlier phases could be used to make subsequent phases better. The BLM in New Mexico has chosen such a phased development alternative as its preferred alternative in for development on New Mexico's Otero Mesa. *See* Exh. 4 (Excerpts of the Proposed Resource Management Plan Amendment and Final Environmental Impact Statement for Federal Fluid Minerals Leasing and Development in Sierra and Otero Counties) at 2-26 through 2-30 and D-10. Whereas that development plan is unsuitable for Otero Mesa, for reasons that include the likelihood that reclamation would never be

[2] Leaving wildlife corridors undeveloped would necessitate planning changes apart from the issue of phased development. The BLM stated in the 2003 EIS that it would consider planning issues such as wildlife corridors, but did not. It must take the opportunity to do so in this SEIS or risk another reversal. *See infra* at 9.

successful in that fragile landscape, such a plan should be considered here, where the possibility of reclamation is a reality.

3. **Unitization and Communitization:** The Colorado Department of Natural Resources has recently proposed that the BLM, in its planning for oil and gas development for the Roan Plateau, utilize unitization as a means to minimize surface disturbance and thereby reduce impacts to all resources, particularly wildlife. The most recent iteration of this proposal is attached as Exh. 5. By establishing federal units, Montana BLM could likewise help to ensure that development occurs in planned phases that minimize surface impacts. With respect to state and private development, Mineral Leasing Act regulations provide that BLM may implement unitization or communitization agreements that provide for payment of a royalty on production attributable to unleased federal minerals. 43 C.F.R. § 3162.2-2.

4. **Minimizing Surface Impacts by Planning for Shared Infrastructure:** BLM-approved projects and wells should try to minimize surface impacts by utilizing, wherever possible, existing infrastructure such as power lines, pipelines, compressor stations, water treatment facilities and rights-of-way.

5. **Directional Drilling:** Directional drilling should be considered in conjunction with and as a means to effectuate developing leases in phases, as well as on its own. Requiring that directional drilling be utilized where viable would reduce surface impacts while at the same time allowing for more of a lease to be developed.

6. **Plan By Management Area:** It must be emphasized that there is likely no one-size-fits-all phased development alternative that would best protect the important resources of a given area within Montana's portion of the Powder River Basin. For example, important wildlife populations such as sage grouse may be concentrated in certain regions, just as the availability of receiving formations for the reinjection of CBM wastewater will vary by location. Therefore, BLM should create specific management areas and implement different concepts of phased development to protect the resources as they vary from one area to another.

D. The BLM Cannot Rely On Rationales Contained in the 2003 EIS to Limit Its Consideration of Phased Development.

The rationale BLM provided in the 2003 EIS for rejecting phased development alternatives was based on the determination in the 1994 RMP/EIS of the areas to be open to oil and gas development and the stipulations to be attached to oil and gas leases. 2003 EIS at 2-2. According to BLM, the leasing decisions and stipulations provided for in the 1994 RMP/EIS could not be reconsidered because "CBM is part of the oil and gas estate" and "[e]xisting oil and gas leases include the right to explore and develop CBM." *Id.* It is obvious from the Montana District Court's decision in *NPRC v. BLM*, No. CV 03-69-BLG-RWA (D. Mont. February 25, 2005) and *Northern Cheyenne Tribe v. BLM*, No. CV 03-78-BLG-RWA (D. Mont. February 25, 2005), that this was incorrect.

The Court's finding that the leases possessed by the companies never granted the right to develop CBM also refutes the BLM's second reason for rejecting phased development in the 2003 EIS. In that document, the BLM maintained that phased development would be "unreasonable" because "each lessee has an investment-backed expectation that its applications for permits to drill will be considered in a timely manner and approved absent unacceptable site-specific impacts." 2003 EIS at 2-4. Given that the lessees had no expectation that their APDs would be approved for anything but "exploratory drilling and small-scale development of CBM," *NPRC/Tribe* Order on Merits at 17, this justification is likewise invalid.

Nor does the Mineral Leasing Act, 30 U.S.C. § 181 *et seq.*, limit the ability of the BLM to consider, analyze and adopt a phased development alternative. BLM mischaracterized the Act when it wrote in the 2003 EIS that it "require[s] maximum ultimate economic recovery of oil and gas from leased lands." 2003 EIS at 2-4. On the contrary, the regulations implementing the MLA explicitly require that oil & gas companies balance the recovery of resources with environmental protection:

> A lessee shall have the right to use so much of the lease lands as is necessary to explore for, drill for, mine, extract, remove and dispose of all the leased resource in a leasehold subject to: restrictions deriving from specific non-discretionary statutes; and such reasonable measures as may be required by the authorized officer to minimize adverse impacts to other resource values, land uses or users not addressed in the lease stipulations at the time operations are proposed.

43 C.F.R. § 3101.1-2.

Last, the threat of drainage does not provide an excuse for BLM to limit its phased development alternatives in the SEIS. Given that the State of Montana was co-lead on the 2003 EIS, BLM can and should work with the State again on the SEIS to provide for planning and mechanisms to prevent drainage of federal resources by state and private wells. Even in the absence of a plan and/or agreement with the State of Montana, the Mineral Leasing Act provides the means whereby BLM can implement phased development without losing federal CBM resources to drainage by private or federal wells. The 2003 EIS used the threat of drainage as one justification for summarily rejecting a phased development alternative. 2003 EIS at 2-4. This ignored the fact that the BLM has the authority to require that it be reimbursed for any drainage of federal mineral resources. The Mineral Leasing Act provides:

> Whenever it appears to the Secretary that lands owned by the United States are being drained of oil or gas by wells drilled on adjacent lands, he may negotiate agreements whereby the United States, or the United States and its lessee, shall be compensated for such drainage.

30 U.S.C. § 226(d). The Mineral Leasing Acts regulations authorize "equivalent protective measures" to address drainage, including (1) agreements with the owners of interests in the producing well "under which the United States may be compensated for the drainage," and (2) unitization or communitization agreements that provide for payment of a royalty on production attributable to unleased federal minerals. 43 C.F.R. § 3162.2-2.

Indeed, the 1992 RMP/EIS stated: "Areas closed to leasing or areas closed to lease operations because of contiguous No Surface Occupancy stipulations would preclude any oil and gas activities, but would not provide the opportunity for protection of drainage; however, reimbursement could occur by execution of a Compensatory Agreement." *See* Exh. 6 (excerpt of Final Oil and Gas RMP/EIS Amendment, Miles City District, December 1992) at 63.

II. BLM SHOULD CHOOSE A PHASED DEVELOPMENT ALTERNATIVE AS ITS PREFERRED ALTERNATIVE.

A. A Phased Development Alternative Is Most Consistent With FLPMA

A phased development alternative that provided for CBM extraction while preserving other uses of the lands for future generations is most consistent with the BLM's organic statute, the Federal Lands Policy and Management Act, 43 U.S.C. §§ 1701 *et seq.* ("FLPMA"). Congress enacted FLPMA in 1976 in order to provide a comprehensive statutory framework for the BLM's administration of public lands. FLPMA provides that the BLM "shall manage the public lands under principles of multiple use and sustained yield." 43 U.S.C. § 1732(a) (emphasis added).

Multiple use is defined as "the management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people . . . a combination of balanced and diverse resource use that takes into account the long-term needs of future generations for renewable and nonrenewable resources, including but not limited to recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historical values." 43 U.S.C. § 1701(c) (emphasis added). This concept of stewardship requires the "harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output." 43 U.S.C. § 1701(c).

"Sustained yield" is defined as "the achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources consistent with multiple use." 43 U.S.C. § 1702(b).

Last, FLPMA also provides that the Secretary of Interior shall take any action "necessary to prevent unnecessary or undue degradation of the lands." 43 U.S.C. § 1732(b).

It should be obvious that phased development, by spreading both the benefits and liabilities of CBM extraction out over a longer time period, would better provide for the long-term needs of future generations for renewable and nonrenewable resources than an unplanned race to develop CBM as fast as possible in order to maximize short-term corporate profits and governmental royalties. The fact that experts predict that natural gas supplies will continue to decline in the coming decades further emphasizes that a slower, phased approach is more consistent not only with FLPMA's multiple use mandate but also with securing the nation's energy supplies in the long term.

It should also be obvious that the preservation of the economic and ecosystem resources of the land through the lifetime of CBM extraction in the region best fulfills FLPMA's multiple use and sustained yield mandates. Planning so that development proceeds at a pace and in a manner that protects present uses and resources is the only way to ensure that it proceeds without permanent impairment of the productivity of the land that would defeat "the achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources consistent with multiple use." 43 U.S.C. § 1702(b).

In contrast, a failure to implement phased development would conversely violate BLM's responsibility to take into account the long-term needs of future generations for renewable and nonrenewable resources, as well as to prevent unnecessary or undue degradation of the lands. This is demonstrated by the fact that the BLM admitted in the 2003 EIS that it had expressly declined to consider a level of development that could sustain resources and uses, other than oil and gas extraction, in the study area. 2003 EIS at 5-36 (***"C-38:*** How many wells can be permitted and still sustain the land and animal life that exists today? ***R-38:*** The maximum number of wells that could be drilled and still sustain current resource levels was not analyzed in the EIS.").

B. A Phased Development Alternative Is Most Consistent With The BLM's NEPA Obligations.

The purpose and need of the 2003 EIS reflected the proper balance between resource extraction and other uses. It stated that BLM would use its analysis of oil and gas impacts, and particularly CBM, to "to analyze options for BLM to change its planning decisions by considering oil and gas management options including mitigating measures that will help minimize the environmental and social impacts related to CBM activities." 2003 EIS at 1-2 (emphasis added). As discussed above, phased development would best meet the objective of minimizing environmental and social impacts by spreading them out over time to reduce the magnitude of environmental impacts and to prevent a boom-and-bust development scenario. Indeed, the Montana District Court concluded, a phased development alternative would not hinder BLM's stated goal of "minimiz[ing] the environmental and societal impacts related to CBM activities" but in fact would further this objective. "*NPRC/Tribe* Order on Merits at 12-14.[3]

III. OTHER ISSUES THE SEIS NEEDS TO CONSIDER AND ANALYZE.

A. Changing Planning Decisions.

The Purpose and Need of the 2003 EIS stated that BLM would use its analysis of oil and gas impacts to "to analyze options for BLM to change its planning decisions." 2003 EIS at 1-2 (emphasis added). However, that promise was left unfulfilled. None of the alternatives in that document considered any changes in planning decisions. In fact, BLM stated that the FEIS did

[3] It is also worth mentioning that the regulations implementing NEPA state: "The NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment." 40 C.F.R. § 1500.1(c). As demonstrated above, as well as by EPA and FWP, a phased development alternative would best promote actions that protect, restore, and enhance the environment.

not consider whether to close areas to leasing or whether to change any existing lease stipulations from the 1994 RMP/EIS. 2003 EIS at 2-2 to 2-3. This despite the fact that the BLM recognized that existing lease stipulations were insufficient to protect numerous wildlife species. 2003 EIS at 107 ("***C-131:*** In Chapter 4, Wildlife, under Assumptions, the BLM admits that existing sage grouse stipulations are inadequate but does not revise them. ***R-131:*** Leasing decisions are outside the scope of the plan."); *id.* at 5-96 ("Changing lease stipulations [is] [sic] beyond the scope of this document.").

Given that the purpose and need defines the range of alternatives that an agency need consider in an EIS, BLM's failure to consider alternatives explicitly provided for by the EIS's purpose and need rendered the range of alternatives in the 2003 EIS inadequate. *Muckleshoot Indian Tribe v. U.S. Forest Service*, 177 F.3d 800, 812-14 (9th Cir. 1999). Moreover, FLPMA mandates that the BLM evaluate its leasing decisions, including where CBM should and should not be developed and if developed, what stipulations should attach. BLM's Land Use Planning handbook makes clear that FLPMA and its implementing regulations require the agency, in developing an oil and gas amendment to an RMP, to consider which areas should be open or closed to leasing and what stipulations should apply to those that are open. BLM Land Use Planning Handbook, BLM Handbook H-1601-1 at 114.

To remedy this error, BLM must do what it said it would do in this SEIS. The EPA agrees. The EPA recommended in its scoping comments on the 2003 EIS that BLM's alternatives analysis should identify (1) areas where CBM development "cannot avoid creating significant environmental impacts and should be closed to leasing" and (2) areas that "require lease stipulations in order to reduce environmental impacts to an acceptable level." *See* Exh. 1 at 5. WORC agrees with and adopts the comments of the Northern Plains Resource Council and EPA with respect to its position that the BLM must reconsider its leasing decisions in the SEIS.

B. Direct, Indirect and Cumulative Impacts.

WORC maintains that the BLM did not take a sufficient hard look in its 2003 EIS at numerous resources. WORC has attached an excerpt of its Reply Brief in *Western Organization of Resource Councils v. Clarke*, CV 03-70-BLG RWA (D. Mont.), and adopts the contents therein for purposes of these scoping comments, for the BLM's use in identifying and remedying the issues that still need to be addressed in the SEIS. *See* Exh. 7. Those hard look issues are still extant, having been dismissed without prejudice by the Montana District Court, and therefore need to be addressed in the SEIS to avoid future litigation. In addition, WORC adopts by reference the comments of NPRC treating the issues that BLM must address in the SEIS, found under the heading "Significant Remaining Issues with 2003 FEIS/RMP that BLM Must Address in Supplement" at page 15.

In particular, with respect to cumulative impacts the BLM must address the fact that the Montana 2003 EIS considered development over a twenty-year period, whereas the Wyoming EIS considered development over only a ten-year period. The Wyoming RFD predicted a total of approximately 81,000 wells over the twenty-year period but only 50,000 wells over the ten-year period were analyzed in the Wyoming EIS. Consequently, over 30,000 Wyoming wells were excluded from the analysis in the 2003 Montana EIS due to the discrepancy in time periods analyzed in the two state EISs. This discrepancy caused the 2003 Montana EIS to fail to consider in its cumulative impacts analysis the accompanying 30,000 additional wells that could

occur in the Wyoming portion of the Basin during the second decade of the 20-year period that was purportedly analyzed.

IV. CONCLUSION.

WORC views this SEIS process as providing the BLM a chance to collaborate with the State of Montana, WORC and others to craft an alternative that will ensure the responsible development of CBM resources for the benefit of this and future generations. WORC stands ready to offer its expertise and cooperation in this endeavor.

Respectfully submitted on behalf of Western Organization of Resource Councils, Natural Resources Defense Council, Powder River Basin Resource Council and Wyoming Outdoor Council,

On September 2, 2005, by:

Keith G. Bauerle
Earthjustice
1400 Glenarm Place, Suite 300
Denver, CO 80202
Telephone: (303) 623-9466
Facsimile: (303) 623-8083

Attorney for Western Organization of Resource Councils, Natural Resources Defense Council, Powder River Basin Resource Council and Wyoming Outdoor Council.

EXHIBIT 1

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
999 18TH STREET - SUITE 300
DENVER, CO 80202-2466
http://www.epa.gov/region08

FEB - 1 2001

Ref: 8EPR-EP

Jan Sensibaugh, Acting Director
Montana Department of Environmental Quality
P.O. Box 200901
Helena, Montana 59620-0901

Matt Millenbach, State Director
Bureau of Land Management
P.O. Box 36800
Billings, Montana 59107-6800

RE: EPA's Scoping Comments for the Oil and Gas Resource Management Plan Amendment and Montana Statewide Environmental Impact Statement

Dear Ms. Sensibaugh and Mr. Millenbach:

With this letter EPA is submitting comments on the scope of the Environmental Impact Statement (EIS) that is to analyze the potential impacts of proposed oil and gas, including coal bed methane (CBM), development in Montana. These comments focus on key issues for consideration and analysis in this upcoming EIS and Resource Management Plan (RMP) Amendment. EPA supports plans that assure this source of clean energy, natural gas, be developed expeditiously as long as such plans provide for proper protection of the environment and natural resources. Some of the following issues have been discussed in meetings between our staffs in September of 2000 and January of 2001, and we would like to take this opportunity to elaborate further on them.

EPA's Involvement

We understand that the Montana DEQ, as the lead agency for the State of Montana, and the Bureau of Land Management (BLM), as the lead federal agency, have offered "Cooperating Agency" status to other governmental entities. In view of EPA's Clean Water Act (CWA) and Safe Drinking Water Act (SDWA) authorities, which are described in more detail below, it would be appropriate that EPA be included as a cooperating agency in the process of developing this EIS. However, our ability to effectively participate is dependent upon sufficient staff-to-staff efforts, including involvement with the Tribes and other stakeholders in Montana and Wyoming. We are unable to commit to becoming a cooperating agency unless supplemental travel funds are

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provided by the lead agencies. We therefore request that BLM consider if financial support is available for these efforts.

EPA's authorities related to the proposed actions are outlined below.

- Clean Water Act Section 402, 33 U.S.C. Section 1342, and 40 CFR Parts 122-125. Under Section 402(b) of the CWA and 40 CFR Part 123, EPA has authorized the States of Montana and Wyoming to issue National Pollutant Discharge Elimination System ("NPDES") permits for discharges of pollutants from point sources into waters of the United States located in Montana and Wyoming and excluding Indian country as defined at 18 U.S.C. 1151. As you are aware, various coal bed methane operators have applied to the States of Wyoming and Montana for NPDES permits to discharge water produced from CBM operations into waters of the United States. EPA retains an oversight and partnership role in state NPDES programs. As described in 40 CFR Part 123, Subpart C, EPA reviews proposed state NPDES permits for compliance with CWA requirements. For discharges in Indian country (a term that is defined in 40 CFR Section 122), EPA has direct implementation authority for issuing NPDES permits.

- Clean Water Act Section 401, 33 U.S.C. Section 1341, and 40 CFR Part 121. These provisions describe EPA's role in addressing certain discharges in one state that may affect the quality of water within any other state.

- Section 303(d) of the CWA, 33 U.S.C. Section 1313(d) and 40 CFR Part 130. These provisions require states to identify waters that need Total Maximum Daily Loads (TMDLs) and to establish TMDLs for them, with an oversight and partnership role for EPA. In addition, EPA is under a court order to approve or establish TMDLs for all waters on Montana's 1996 Section 303(d) list of waters needing TMDLs by May 5, 2007.

- The Safe Drinking Water Act (SDWA), Sections 1421 through 1429 and 40 CFR Parts 144-147 regarding underground injection control (UIC). Should produced water from CBM operations be injected into the ground, Class II and/or Class V UIC permits may be necessary. EPA and the States administer the UIC program in order to provide protection to underground sources of drinking water and public water systems under provisions of the SDWA, Part B. EPA administers the Class V UIC program in the State of Montana and all classes of UIC wells on Indian country lands in Montana and Wyoming. EPA has approved Wyoming's program for administering the UIC program for all five classes of UIC wells and Montana's program for administering the UIC program for Class II wells, and EPA retains an oversight and partnership role with these States for these programs. EPA's approvals of the States' authorities to administer these programs do not extend to Indian country.

- Section 309 of the Clean Air Act, 42 U.S.C. Section 7609. This provision calls for EPA review and comment on the environmental impact of major federal actions to which the National Environmental Policy Act (NEPA), 42 U.S.C. Section 4332(2)(C), applies.

- Executive Order 13175. This Order requires federal agencies to insure meaningful opportunity for and timely input by tribal officials in the development of regulatory policies that have tribal implications. The Executive Order reflects the federal government's trust responsibility to federally-recognized Indian tribes. Pursuant to this trust responsibility, the federal government establishes regular and meaningful consultation and collaboration with tribes on a government-to-government basis when federal activities may affect Indian tribes.

Consistent with the responsibilities mentioned above, EPA intends to provide technical information and support to Montana, Wyoming, the Crow Tribe, and the Northern Cheyenne Tribe, as described below. EPA will perform these functions regardless of whether it is formally designated as a cooperating agency for this EIS, although EPA will make every effort to coordinate these functions with the EIS process as appropriate. We will specifically focus our efforts, in addition to our NEPA review role, on the following:

- EPA will provide technical assistance, as appropriate, to further the joint development of a TMDL on the Tongue River at the border between Montana and the Northern Cheyenne Tribe and at the border between Montana and Wyoming. Currently, EPA and the State of Montana are subject to a court order that prohibits NPDES permits for new or increased discharges until all necessary TMDLs are established for a particular water quality limited segment (WQLS). (See September 21, 2000 order in Friends of the Wild Swan, *et al.*, v. U.S. Environmental Protection Agency, *et al.*, CV 97-35-M-DWM, U.S. District Court for the District of Montana, Missoula Division.) The Tongue River, the Powder River and the Little Powder River have been included on Montana's 1996 list of WQLSs, that is these are streams that need TMDLs.

- EPA is currently processing an application from the Crow Tribe to administer Clean Water Act water quality standards, pursuant to Section 518 of the Clean Water Act and 40 CFR Section 131.8. The Crow Tribe submitted its application in June of 1999. The Northern Cheyenne Tribe submitted a draft application to EPA in January of 2001 and the Tribe anticipates submitting a final application to EPA this year.

- Under Section 402 of the CWA, EPA will provide a technical and economic analysis of "Best Professional Judgement" (BPJ) for the management of CBM produced waters. Public participation and meetings regarding EPA's development of BPJ for CBM discharges will be coordinated with the lead agencies and, to the extent possible, may be combined with the public participation process managed by the lead agencies. We anticipate that by June, 2001, EPA will have a draft BPJ policy ready for public review.

- EPA is now processing applications from Redstone Gas Partners, LLC for two Class V UIC area permits on Redstone's CX Ranch west of the Tongue River. Redstone's application currently proposes a total of six injection wells. (The pertinent applications were received on December 15, 2000 and December 26, 2000 and are now referenced as EPA UIC Area Permit No MT5901-00000 and MT 5909-00000.) Public participation and meetings regarding review of this application will be coordinated with the lead agencies. EPA anticipates it will provide the lead agencies and interested parties a draft permit and "Statement of Basis" for this UIC permit decision by March 30, 2001.

Summary of Scoping Comments

For the Tongue River, EPA supports a collaborative approach between the Montana DEQ, the Wyoming DEQ, the Crow Tribe, and the Northern Cheyenne Tribe to develop interstate water management plans to assure that CBM operations do not cause any water quality standards violations. We are particularly concerned with protecting all designated uses, and thus water quality, of the river and its tributaries. In order to protect these designated uses, it would be appropriate to develop a Total Maximum Daily Load (TMDL) to establish water quality targets on the Tongue River at the border between Montana and the Northern Cheyenne Tribe and at the border between Montana and Wyoming. At the same time, we support a process to assign assimilative capacity for the Tongue River among the parties listed above who express an interest.

Similarly, on the Powder and Little Powder Rivers, which do not flow through or adjacent to Indian country lands, we expect that the EIS process will assist the States of Wyoming and Montana in protecting designated uses and in resolving their own allocation of these streams' assimilative capacity. The States of Montana and Wyoming already are in ongoing communication regarding the water quality impacts of coal bed methane operations. We understand that these interstate discussions will address the manner is which water quality standards at the border will be defined. We encourage these efforts and suggest that these interstate issues be included within the scope of this NEPA analysis to provide for public involvement on these matters as appropriate.

EPA has had several inquiries regarding public participation to our own CBM-related activities in the Powder River Basin. EPA does encourage public participation in this lead agency and multi-state process. We encourage the states within our Region to allow for the maximum degree of public participation in their CWA and SDWA permitting and related actions. For integration and efficiency, we request that the co-lead agencies coordinate with us to develop public participation to jointly manage these processes within the context of this NEPA process.

EPA will review and comment, as appropriate, on various sections of the EIS as provided by the lead agencies. To the extent resources allow, EPA will attend meetings of the cooperating agencies as requested by the lead agencies. We are especially interested in participating in discussions regarding the scope of analysis and reasonably foreseeable development, and the

development of alternatives. We hope that some early input in the initial determination of the scope of issues to be covered in this EIS will allow EPA and the other governmental parties to resolve any outstanding issues up front and early.

We believe that the interests of the Crow and the Northern Cheyenne Tribes need to be fully considered in this EIS. Their economic and natural resources will be impacted by CBM development. We encourage the co-lead agencies to invite the Crow and Northern Cheyenne Tribes to participate as cooperating agencies for this EIS.

EPA's point of contact for Coal Bed Methane activities in Montana is John Wardell, EPA Montana Office Director at 406/441-1123 ext. 238. EPA's contact for this EIS activity is Cindy Cody, NEPA Chief in EPA's Denver Regional Office at 303/312-6228. We have established the following technical and legal team to assist in this EIS effort and our related CBM program actions in Montana:

Name	Function and Program	Phone
Wes Wilson	NEPA	303/312-6562
Mike Reed	NPDES permits	303-312-6132
David Hogie	UIC permits	303-312-6137
Barbara Burkland	Tribal Assistance Program	406/441-1141 ext 236
Jean Belille	Environmental Justice	303-312-6291
Julie DalSoglio	Water Quality Standards and TMDLs	406/441-1140 ext 256
Peggy Livingston	CWA and SDWA legal Office of Regional Counsel	303-312-6858
Kimi Matsumoto	NEPA and Indian law Office of Regional Counsel	303 312-6875

Please contact these EPA employees directly on any matter related to their areas of expertise. We look forward to working with the Montana DEQ, the BLM, the Crow Tribe, the Northern Cheyenne Tribe and the other cooperating agencies on this EIS.

Sincerely,

Max H. Dodson
Associate Regional Administrator
Ecosystems Protection and Remediation

Enclosures: Detailed Scoping Comments by EPA, 10 pages
EPA to Redstone Gas Partners, January 10, 2001, 5 pages
EPA to BLM Buffalo Field Office, August 10, 2000 and January 2001, 11 pages
EPA to Wyoming DEQ, December 20, 2000 and January 5, 2001, 7 pages

cc: Clifford Bird in Ground, Crow Tribe
Jeri Small, Northern Cheyenne Tribe
Dennis Hemmer, Wyoming DEQ
Al Pierson, BLM, Wyoming
Greg Hallsten, Montana DEQ
Art Compton, Montana DEQ
Mary Bloom, BLM, Miles City Field Office
Bud Clinch, Montana DNRC
Tom Richmond, Montana Board of Oil and Gas
Bruce Williams, Redstone Gas Partners
Paul Beels, BLM, Buffalo
Bill Bear, South Dakota DNR

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EPA Region 8 Scoping Comments – Oil and Gas Resource Management Plan (RMP) Amendment and Montana Statewide EIS

NEPA Process Issues

There are many common issues between the States that need interstate coordination. Please refer to similar comments provided by EPA for NEPA scoping on: 1) Wyoming BLM Powder River Coal Bed Methane EIS, dated August 10, 2000, and 2) Wyoming BLM Buffalo and Platte River RMP Amendment and Powder River Oil and Gas EIS, dated January 10, 2001, copies enclosed.

Tribal coordination

If appropriate and concurred on by the Tribes, this NEPA process could include Indian lands as part of this EIS since would simplify and expedite future NEPA compliance documents for the Tribes as they could be tiered from this programmatic EIS. This might be particularly relevant in developing the geographic and analysis scope for this EIS, in defining the Reasonably Foreseeable Development scenario, and in the possible development of CBM-specific lease stipulations for consistency or minimizing potential conflict across those Tribal and State boundaries.

Meeting all applicable water quality standards may include different or additional water quality standards on Tribal land. Currently EPA is processing a Clean Water Act application for "treatment as a state" (TAS) from the Crow Tribe. The Crow Tribe submitted its TAS application in June, 1999. The Northern Cheyenne submitted a draft TAS application to EPA in January, 2001. We encourage the lead agencies to discuss with the Tribes the schedule and implications of these CWA applications.

Powder River and Billings Resource Management Plans (RMP)

BLM acknowledges that projected development for coal bed methane was not anticipated in the original Powder River or Billings RMPs and subsequent amendments. As planned, these RMPs will be updated to include a general analysis of at least 10 years of reasonable foreseeable development (RFD) as projected by the producers. The RMP is the best place to identify general production methods, including well spacing. It is also appropriate that the RMP evaluate a unitized approach to development to address drainage as well as determine the broader environmental impacts.

Since BLM has stated that the RMP will be updated based on this EIS process, the document should be clear as to what information is updating the RMP. EPA suggests that BLM separate the information that will be used to amend the RMP into a specific chapter or attachment so that

the public can easily understand the process and it's implications. This goes beyond simply stating that the EIS is an amendment to the RMP

Reasonable Foreseeable Development

The reasonable foreseeable development (RFD) has a large impact on the NEPA analysis for CBM production. Projections could vary for the number of coal bed methane (CBM) wells to be drilled in the project area from approximately 10,000 wells within the Powder River Basin in Montana to as-yet-undetermined additional wells in the entire state. Our concern is that BLM is only proposing to analyze the RFD for 10 years of development. This approach will segment the impacts by only looking at the development for the next 10 years. Reasonable forecasting is implicit in NEPA and federal agencies should attempt to predict the environmental effects before they are fully known, unless obtaining such information is itself unreasonable. (See, for example, 481 F.2d 1079 D.C. Cir. 1073.) BLM has estimated CBM in Wyoming for a 20-year period. The projections for production in at least some of the areas of the Powder River Basin in Wyoming have been estimated by BLM for the year 2020 as identified in "Powder River Basin Oil and Gas EIS Coal Bed Methane Activity Breakdown."

We recommend that BLM and the State consider a "full field development" option for RFD by overlaying the coal resources with the proposed maximum density criteria consistent with the well spacing requirements of the Montana Oil and Gas Board. In areas of the state other than the Powder River Basin, an RFD proposal from producers is not yet available. A full field development RFD for these areas may be appropriate in order to meet the provisions of 40 CFR 1502.22 regarding incomplete or unavailable information.

The RFD should cover full field development of the resource since BLM has already leased most of the resource in the Powder River and Billing RMP areas. Although water production from full field development will not occur simultaneously from the total projected well numbers, there are some impacts which are cumulatively significant. For example, the surface disturbance impacts remain for a period longer than 10 years if the wells are not plugged and abandoned and surface reclamation of roads is not carried out immediately when production has fallen off and a field is shut in. Similarly, lowered ground water potentiometric surfaces for the coal bed aquifer will persist for years after water production begins to decline or production ceases. Another example may be the persistence of soil dispersion affects for areas irrigated with produced waters with high Sodium Adsorption Ratios (SAR). Soil dispersion and subsequently hard pan appearance could be a delayed response not evidenced in the irrigated soils for a decade or more after irrigated with high SAR. For these reasons, impacts that will extend beyond 10 years need to be evaluated for the full amount of projected development. The projected development should be based on how the resource mineral will be extracted and not simply on the number of wells projected by the producers over the next 10 years.

Project Scope vs. Analysis Scope

For this comprehensive EIS, the full scope of the project area of methane development in the Powder River Basin geographically extends into Wyoming where methane production is located just south of the Montana border on the Tongue, Powder and Little Powder River watersheds. Because the methane play in Wyoming is currently occurring at a much faster rate and Wyoming is approving well permits at the rate of approximately 100 - 200 per month, this EIS should analyze the impact from full field development across these State lines. We understand that Wyoming BLM is now developing an RFD covering full field development in the Powder River Basin CBM EIS. (See BLM's Wyodak Final EIS, and Notices of Intent for preparation of EISs on the Wyoming Powder River Basin Coal Bed Methane EIS and Wyoming BLM Buffalo and Platte River RMP Amendment and Powder River Oil and Gas EIS.) This EIS in Montana should identify the process for coordinating these joint efforts by the BLM Field Offices in Wyoming and Montana to identify impacts within the Powder River Basin that go beyond state lines.

The scope of analysis area needs to extend beyond the project area. BLM is responsible for making sure that downstream standards that may extend beyond the project area are met. Specifically, the BLM regulations at 43 CFR Section 2920.7(b) (3) and 43 CFR 3162.5-1 assure compliance with Federal or state water quality standards and a preference for the produced water to be disposed of by injection into the subsurface to maintain these standards. If the intended disposal method in these watershed is surface water discharge, then DLM should analyze the downstream impacts and not depend solely on anticipated state permits to reach a conclusion of no significant impacts.

Information from the Powder River Basin in Wyoming should be used to evaluate the potential for development and the associated impacts that are connected with impacts in Montana. Other inter-state coordination efforts may also impact the viability of alternatives that rely on surface water discharge for produced water in the EIS. They include the waste load allocation and "Total Maximum Daily Load" (TMDL) determinations between these States and between these States and these Tribes. We recommend that this EIS evaluate impacts and mitigation possibilities based on the stream assimilative capacities and include any waste load allocation determinations within the affected watersheds. This approach would cross jurisdictions with state, tribal, and federal authorities.

Because of the cumulative impacts from Wyoming CBM produced water discharges upon these streams, EPA suggests that the analysis scope for this EIS be based on a watershed approach. BLM may want to consider having the Miles City BLM office manage the Tongue River watershed analysis including the Wyoming portion of that drainage, while the Wyoming Powder River Basin CBM EIS by the Buffalo BLM office would focus on the watershed analysis for the Powder River, Little Powder River, and Belle Fouche River watersheds.

Scope of the Proposed Alternatives and Mitigation

The EIS should be comprehensive in analysis of alternatives in order to meet the CEQ requirements to "sharply define the issues and provide a clear basis for choice among options by the decision maker and the public." (See 40 CFR1502.14) The EIS should not exclusively use the number of wells as a comparison measure for the different alternatives. EIS alternatives should be based on an adequate range so they sharply define differential levels of impacts to natural resources. EPA recommends that alternatives be based on different levels of mitigation as well as different levels of development. This approach allows co-lead agencies to identify all realistic alternatives that fully develop the CBM mineral resource with various amounts of impacts to natural resources.

An EIS or RMP amendment with alternatives that do not incorporate the resolution concerning surface water discharge could require future modification of BLM's and/or Montana's preferred alternative. Resolutions between the States should be thoroughly incorporated into any alternatives and decisions. However, neither the State of Wyoming or either Tribe are cooperating agencies at this point. Therefore a specific process of incorporating the interstate and State/Tribal resolution of differing water quality protection approaches should be considered that provides for appropriate public participation at an early stage and meets the requirements found at 40 CFR 1505.1(e). This part of the CEQ NEPA Guidance refers to circumstances when another decision document accompanies the relevant environmental documents to the decision-maker, agencies are encouraged to make available to the public, before the decision is made, any part of that other document that relates to the comparison of alternatives.

One important purpose of the EIS is to identify all significant impacts that will result from the action in the future and how they will be monitored and mitigated. Post-project monitoring is necessary and should be required to determine if impact projections are accurate. However, a future process for monitoring should not be a substitute for gathering baseline information and making predictions through modeling or using professional expertise in the EIS based on sound professional experience.

For example, allowing surface discharges up to the point of impairment of water quality standards, unacceptable erosion, or flooding and sedimentation is not consistent with the intent of NEPA. NEPA requires identification of potential impacts to natural resources to be prospective beyond a determination of compliance with a discharge permit. Future impacts should be anticipated in a water management plan and mitigation that would avoid these impacts should be in place when the ROD is signed.

Also, if modeling shows that only minimal amounts of produced water can be discharged to the surface before significant impacts or an in-stream water quality standard violation would be observed, it makes sense to identify that problem up front and correct it with appropriate mitigation such as subsurface injection. This will avoid forcing the operator to shut down during production, to assess and implement mitigation measures or alternative disposal methods.

There may be significant impacts related to constructing oil and gas production infrastructure due to the "boom and bust" nature of the coal-bed methane development. Therefore we suggest that the range of alternatives include a phased development alternative. Just as determining where oil and gas development is appropriate, determining when development is appropriate is also a consideration of the RMP. An alternative that incorporates a phased development of coal-bed methane could help reduce the significance of impacts by spreading them out over a period of time. Preparing infrastructure for peak production during a boom results in environmental impacts that could have been minimized through a planned or phased approach to development. For example, a phased approach would reduce impacts from larger volumes of surface water discharges that would be encountered if drilling and production are allowed to proceed without timing restrictions. In addition, completed coal-bed methane wells venting gas are wasting resources when there is no available pipeline or pipeline capacity to transport the product.

Leasing Decisions and Significant Impacts

The previous RMP for the Miles City Field Office opened a majority of the area to oil and gas development for leasing and most of the public resource has subsequently been leased. It is unclear whether the scope of the these RMP Amendments will include revisions to these previous leases or possibly adding CBM-specific stipulations to these existing leases. We encourage BLM to address two issues associated with this process: 1) determine areas where oil and gas development can not avoid creating significant environmental impacts and should be closed to leasing; and 2) specifically identify areas that require lease stipulations in order to reduce environmental impacts to an acceptable level.

Surface Disturbance Impacts - Wildlife and Roadless Areas

Including travel management planning in the Resource Management Plan would also help minimize surface impacts. Oil and gas production relies on roads to drill and service wells during production. Projections anticipate up to 10,000 oil and gas production wells in the Montana portion of the Powder River Basin. Although all wells will not be in production simultaneously, this level of development over time will have significant surface disturbance impacts without mitigation or planning incorporated into the EIS and RMP. For example, there are areas within these watersheds that are roadless or at least currently have minimal habitat fragmentation. Part of the management plan should address alternatives that will reduce wildlife habitat fragmentation. Alternatives should include mitigation that will minimize road construction and require reclamation of necessary roads after wells have been abandoned.

Connected Actions

Additional gas pipeline capacity in the Powder River Basin will certainly encourage additional CBM wells to be built to carry the product to markets. In fact it is the practice of this industry thus far to first make their capitol investment in the pipeline and then follow that investment with exploration and later production. Although the specific markets or pipeline routes may not be

known, there are aspects of gas transportation that can be anticipated such as compression facilities. These connected actions and the possibly concurrent NEPA analysis that might be undertaken by the Federal Energy Regulatory Commission (FERC) need to be thoroughly addressed in the EIS and incorporated into the reasonable foreseeable development scenario.

Public Participation

In addition to the NEPA process for public participation, Montana with its authorized NPDES program provides for and encourages public participation on certain actions Any new standard such as effluent limitations and BPJ determinations as well as proposed NPDES permits include certain public participation requirements consistent with as 40 CFR Part 25. In addition to these requirements, there are other statutory and regulatory requirements designed to encourage public participation in the NPDES permitting process. For example, Section 402(j) of the Clean Water Act requires that copies of all permit applications and permits be made available to the public. In addition, 40 CFR Section 123.30 specifically prohibits these states from imposing restrictive standing requirements upon members of the public who may wish to challenge those permits in court. There is also a requirement in 40 CFR Section 130.7(c)(1)(ii) for states to allow for public review of total maximum daily load (TMDL) calculations as set forth in the state Continuing Planning Processes. In its direct implementation role on Indian lands, EPA will be responsible for implementing these requirements as well. We hope that EPA and Montana will undertake a joint public participation plan for our combined CWA activities.

Air Quality Impacts

For the far-field impacts to Class I areas east of the Powder River Basin, a reasonably current air emissions inventory will be required. The air emissions inventory should include not only the project related emissions, but also all air emissions resulting from deep well oil and gas development, coal mining and train transportation in the Powder River and Tongue River Basins. These air emissions will need to reflect those that are reasonably expected to occur during the life of the proposed project.

Mitigation of air quality impacts should be analyzed even if air pollution controls are outside the jurisdiction of the BLM. This analysis of both the improvements in air quality and their associated costs will allow the public and decision-maker to have the necessary information with which to make comments and to make a decision as to what BLM would like to occur with the federal minerals.

EIS Cumulative Effects Analysis Issues

EPA suggest the major issues, environmental receptors and mitigation be part of the EIS analysis for direct, indirect and cumulative impacts. See particularly CEQ Guidance "Considering Cumulative Effects Under the National Environmental Policy Act", January 1977 and the applicable regulations at 40 CFR 1508.7.

The definition of cumulative impacts from these regulations states:

> "Cumulative impact" is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions."

The different categories presented under each issue below may not be a complete list. For example, there may be additional mitigation that is identified as BLM and Montana work through the process. In addition, it may become apparent during the EIS analysis that the issue identified below does not present a significant impact.

Issue - Changes to surface water quality

Receptors -	Surface water ecology(environmental) Terrestrial ecology (environmental) Agriculture (socio-economic)
Causes -	Water quality changes due CBM production discharges
Effects -	Violation of in-stream water quality standards, changes to aquatic populations and types of species, changes to types of terrestrial species, increase in sodium adsorption ratio in stream leading to a decrease in alfalfa or other irrigated crop yields
Mitigation -	Water management requirements that would involve discharge treatment, re-injecting production water for disposal or as aquifer recharge, evaporation ponds, pipe water to alternative discharge point, alluvial aquifer recharge projects, determining a waste load allocation may become necessary to continue to allow discharges of production water Equity of mitigation is another consideration; since mitigation should not be solely placed on the later or last producers nor solely on one governmental entity versus another.
Geographic Scope -	Defined by downstream changes to water quality
Temporal Scope -	As long as discharges occur unless soil dispersion persists or is not evident for a longer time period

Issue - Ground water depletion

Receptors -	Powder River Basin coal bed aquifers (health) (socio-economic)
Causes -	Lower potentiometric surface due to coal bed methane production
Effects -	Loss of drinking water wells, loss of irrigation and stock watering wells
Mitigation -	Re-inject into coal bed aquifers, compensation to impacted ranchers or Tribal governments

Geographic Scope - Basin wide
Temporal Scope - Concurrent with lower potentiometric surfaces due to CBM production

Issue - Changes to stream channel hydro-morphology

Receptors - Surface water ecology (environmental)
Terrestrial ecology (environmental)
Agriculture (socio-economic)
Effects - Erosion, flooding, sedimentation, ecological changes from displacement of species and introduction of new species,
Causes - Additional stream flow volume from coal bed methane production surface water discharges increases the sediment carrying capacity of the system
Changes from ephemeral to perennial flow at the beginning of production
Changes from perennial to ephemeral flow at the end of production
Mitigation - Water management techniques that include re-injecting production water for disposal or as aquifer recharge, evaporation ponds, pipe water to alternative discharge points, alluvial aquifer recharge projects
Geographic Scope - Limited to areas with changes to flow regime and erosion impacts
Temporal Scope - Could be permanent without restoration

Issue - Methane migration to other aquifers and the surface

Receptors - Ranchers (safety/health) (socio-economic)
Effects - Safety hazard if gas migrates into an occupied structure (residence or ranch out buildings), additional cost to replace affected agricultural or drinking water wells
Cause - Once sufficient head is removed from the production zone, potentiometric surface methane could migrate to drinking water aquifers above the coal bed methane production zone through natural secondary geologic structures such as faults and fractures or through improperly completed or plugged and abandoned wells in addition to geophysical test holes.
Mitigation - Hazard assessment for potential gas migration through well record reviews and delineating geologic features that would increase potential for gas migration
Geographic Scope - Basin wide but could be limited to areas determined to have potential for methane migration
Temporal Scope - Could extend beyond production period as long as coal beds are depressurized enough to allow methane to be minimally produced

Issue - Venting methane during well testing and exploration

Receptors - terrestrial ecology (environmental)
global warming (environmental) (socio-economic) (health)

Effects - Changes to terrestrial populations near the well, global warming
Cause - Methane is vented to the atmosphere during well testing when wells are not connected to pipelines.
Mitigation - Determine other methods for testing wells without venting to the atmosphere, shut in test wells after testing is completed until pipeline is connected
Geographic Scope - Ignoring global warming, impacts would be proximate to the well
Temporal Scope - Periods of time when the gas production valve is open and the well is not connected to a pipeline

Issue - Surface Impacts

Receptors - Terrestrial ecology (environmental)
Effects - Loss of habitat acreage, habitat fragmentation
Causes - Surface disturbance from additional roads and utilities build out to service coal bed methane production, increased human presence
Mitigation - Drill multiple wells from one pad, require reclamation after production is completed including roads, reduce utility disturbance with local electric power generation, remove existing roads in areas where no production is likely especially in unique habitat areas on federal or Tribal lands
Geographic Scope - Basin wide in production areas.
Temporal Scope - As long as surface disturbance persists

Issue - Protection of Endangered Species and Species of Concern

Receptors - Black-footed ferret, Bald Eagle and Ladies Tresses Orchid (listed)
Mountain Plover (proposed for listing)
Sturgeon Chub and Black-tailed prairie dog (candidate for listing)
Sage Grouse (species of concern)
Effects - Species extinction
Causes - Loss of habitat or indirect changes to ecosystem changes species populations
Mitigation - Inventory critical habitat areas, reduce or eliminate surface disturbance in critical habitat area, zero surface water discharge if activity could impact critical habitat or known populations, restore lost critical habitat or populations in other locations on federal lands
Geographic Scope - Basin wide
Temporal Scope - As long production impacts persist

Issue - Air Quality impacts

Receptors - Class I Airsheds (environmental) (socio-economic) (health)
Effects - Reduced visibility in valuable natural view-sheds with special focus on the

	Northern Cheyenne Class 1 air quality area
Causes -	Emissions from gas compression facilities and fugitive dust from production activity
Mitigation -	Using low emission power supplies, local methane electricity generation to develop electric compression capability
Geographic Scope -	Northern Cheyenne Reservation Crow Reservation National Parks in South Dakota Cloud Peak Wilderness Area
Temporal Scope -	During CBM production

EXHIBIT 2

A CENTURY OF CONSERVATION
1901 2001
Montana Fish, Wildlife & Parks

P. O. Box 200701
Helena, MT 59620-0701
406-444-3186
FAX:406-444-4952
Ref:DO0658-01
August 28, 2001

Ms. Mary Bloom
Coal Bed Methane Program Manager
U.S. Bureau of Land Management
111Garryowen Road
Miles City, MT 59301

Mr. Greg Hallsten
CBM EIS Coordinator
MT Dept. Environmental Quality
1520 East 6th Ave.
Helena, MT 59620

Dear Ms. Bloom and Mr. Hallsten:

The purpose of this letter is to provide comments from Fish, Wildlife & Parks (FWP) on draft Chapters 2 and 4 of the Coal Bed Methane EIS, including elements to be incorporated into the preferred alternative. FWP apologizes for the lateness of these comments, but because these chapters comprise much of the philosophical underpinning of this document, it was felt necessary to give adequate opportunity to perform a thorough review.

FWP notes that the alternatives as outlined in Chapter 2 are all conditioned upon assumption of full-field development of coal bed methane (CBM) resources in Montana. While this constraint may provide a common basis from which to evaluate the relative merits of alternatives B, C and D, it precludes consideration of a development scenario capable of reducing detrimental impacts to fish and wildlife resources through adaptive management strategies.

Many of FWP's concerns are rooted in significant gaps in baseline biological information and the fact that the impacts of full-field development on fish and wildlife populations are therefore unknown at present and will not be known until after the development is actually underway. Even alternative B, which emphasizes natural and cultural resources, allows for the construction of 6,680 miles of roads, 20,697 miles of utility corridors, and indirect impacts to wildlife on 0.88-4.7 million acres. Some of the impacts associated with this magnitude of surface disturbance and habitat fragmentation can be anticipated and reduced through good planning and mitigation (e.g. routing roads to avoid disturbance to individual sage grouse lek sites or

reclaiming disturbed lands with native vegetation). However, other effects cannot be anticipated in advance, particularly the cumulative impacts on long-term viability of fish and wildlife communities. For example, the combined effects of roads, utilities, disturbed land, and increased recreational use may all have unforeseen impacts to prairie dog towns and associated wildlife species, such as the mountain plover, burrowing owl and ferruginous hawk.

Based on this dilemma, FWP believes that an action alternative capable of reducing or minimizing negative impacts to fish and wildlife resources must rely on phased development over time. A phased approach would allow the responsible agencies to evaluate the effects of development on existing land uses and natural and cultural resources and through a deliberative, adaptive management process, devise strategies to prevent or reduce the detrimental effects of future development found to be irreparable or unmitigatable.

As such, FWP recommends that a phased development approach be added to the conditions of Alternative B. Timing and spacing of the phased approach needs to be determined, but it is suggested that a starting point would be to lease and permit 20-35% of the potential lands (depending on geology), with clustered development. This would provide an opportunity to monitor the development and production of CBM for a period of time adequate to assess to effects on natural and cultural resources. It would also provide opportunities to use deferred lands as a control for comparative purposes. Data compiled should be sufficiently robust to provide a statistically valid assessment of the effects of development on wildlife resources. Results should be used to provide a feedback mechanism to adjust development methods on subsequent phases. These then become mitigative measures, which should be monitored for effectiveness.

The concept of phased development should be incorporated into the Preferred Alternative, as well. As described below, the Preferred Alternative should incorporate other elements of both alternative B (emphasis on natural and cultural resources) and alternative D (emphasis on existing uses). Elements of these two alternatives are interrelated and are from FWPs perspective, critical to a well balanced, sustainable approach to CBM development. Water quantity and quality and soils are as fundamental to sustaining agriculture as they are to sustaining aquatic and terrestrial wildlife values. Likewise, the long-term maintenance of wildlife communities is dependent to a large degree upon the sustainability of agriculture as a prevailing land use. Components of the Preferred Alternative should include:

1) All well production water should be treated at dispersed water treatment facilities (as described in Alternative D) before release to surface waters or to agricultural or industrial sites for beneficial uses. The quality of this water should not only be suitable for irrigation and livestock, but also suitable for amphibians, waterfowl and fish. Given that ephemeral streams, low-discharge streams, and springs may experience significant reductions in flow due to the lowering of the aquifers, the treated water should be made available to supplement the flow of these springs or streams as necessary for mitigation purposes.

2) The wildlife stipulations (used on BLM lands and described in Table 4-34) should be refined and made a requirement for all federal and state lands. These refinements are detailed in our specific comments on Chapter 4;

3) There should be the habitat management goal of no net loss of sagebrush-steppe habitat in order to maintain populations of sage grouse and other wildlife species dependent upon these habitats. This balance can be maintained by reclamation of disturbed lands (including rights-of-way) and conservation easements as an in-kind replacement. Reclamation of disturbed sites should include replacement of the original shrub component to ameliorate habitat fragmentation;

4) Restrictions on the numbers and placement of wells, utilities, roads and compressors should be as described in Alternative B.

FWP also believes that the Industry should be responsible for some of the costs that FWP will incur as a result of CBM development. These measures should be made a condition of any further permitting. Specifically, Industry should provide funding for:

- Adequate enforcement to deal with increased human use of this area;
- Additional improvements and staffing to accommodate increased recreational use at the Tongue River Reservoir State Park.
- The development and implementation of study plans to evaluate the effects of phased development on all fish and wildlife resources which is anticipated to require two full-time biologists (one fisheries and one wildlife).

Specific comments on Chapters 2 and 4 are provided as an attachment to this letter. Please direct specific questions on wildlife issues to Heidi Youmans (444-2612) and fisheries issue to Don Skaar (444-5686). FWP also welcomes the opportunity to meet with your agencies to explore the specifics of a phased approach and how it can be incorporated into the EIS.

Sincerely,

M. Jeff Hagener
Director

Enc.

c: Don Hyppa
Don Skaar
Heidi Youmans

Comments provided by Montana Fish, Wildlife and Parks on draft Chapters 2 and 4 of the Coal Bed Methane EIS, 8/28/01

Chapter 2—Alternative B

- It is stated in Table 2-2 that under this alternative, abandoned roads would be rehabilitated and closed. This is a good general guide, but if environmental consequences are minimal, and access is provided to public lands by these roads, then consideration should be given to leaving them open. Before doing so, a Travel Plan should be developed so that the entire road system can be managed from the standpoint of minimizing effects on wildlife.

Chapter 2—Alternative D

- There should be some discussion about the water rights issues associated with the use of the treated production water. What legal mechanisms will be required to use the water? How will it be decided who gets to use the water? Will this set up conflict with existing users, in terms of seniority issues? If water was available, FWP could potentially want to lease some of it for instream uses.

Chapter 4—Impacts

Land Use and Realty

- Loss of carrying capacity for wildlife as a result of regular use of well access roads by industry, plus recreationists, could be expected to 1) exacerbate the effects of habitat fragmentation (reduced habitat capability/security because animals are inhibited from crossing roads due to disturbance; road-related mortality) and 2) on both private and public lands, such disturbance/reduced habitat security could re-distribute big game species to other private lands, resulting in conflicts with private landowners and agriculture (potential for damage to crops and stored livestock foods such as haystacks and silage).

Recreation.

- Reduced habitat security/habitat capability caused by dramatic increases in roaded access (well roads) could result in reduced wildlife viewing/hunting opportunity, as a result of redistribution of wildlife to areas with lower road density/higher habitat security. Increased roaded access may increase driving opportunity, which can be inversely related to viewing or hunting opportunity.

Vegetation

- Page 4-95. It is stated: "Under all alternatives, the TLMD requires the revegetation of any area of an oil and gas pad site not being used after drilling has been completed.

- Sites are typically seeded back to native grass species. Some areas on the pad and road may be devoid of vegetation and have gravel or scoria placed on the surface as long as the well is in production. The road and pad site would be re-claimed if the well was taken out of production."

  FWP believes it would be more appropriate to require reclamation to habitat types in the same proportion as has been disturbed, rather than simply seeding them back to native grasses. Reclaiming only with grasses could have a large impact on wildlife associated with those vegetation types that will not be replaced. This is best illustrated by the statement under Alternative B (page 4-96, second to last paragraph): "Full-field well development is estimated at 18,300 wells in the RFD. If these wells are distributed evenly over habitats by the proportion of habitats with bituminous coal beds, a total of approximately 59,475 acres would be directly impacted. Approximately 26,962 acres of grassland vegetation, 12,292 acres of shrubland, 8,525 acres of forest land, and 2,379 acres of barren land could be potentially impacted, if wells were distributed in proportion to the amount of acres in each habitat type."

  By these calculations, less than half of all wildlife habitats will be replaced in kind. All of the 12,292 acres of shrubland could be important sage grouse habitat. If it is disturbed and then replaced with grass species, it is lost forever to sage grouse, now threatened by federal listing under Section 7 of the ESA.

Wildlife

- The discussion of wildlife is heavily reliant on the redistribution of individuals due to loss of habitat or disturbance. Community relationships aren't discussed (redistribution/loss of populations, competition between sympatric species/populations when selective advantage is conferred to the species most tolerant of human disturbance (including predator/prey relationships)).
- Conclusions don't address the potential for wildlife species to become imperiled to the point that they could be listed under the ESA, or the short- and long-term ramifications of such a listing. Ramifications of a listing would include state and federal responsibilities and mandates to recover a listed species and land use constraints that would affect CBM development, as well as other land uses on public, as well as private, lands.
- This section is overly reliance upon "redistribution" of wildlife in response to disturbance and habitat loss. In some circumstances, redistribution is not a realistic outcome of certain habitat impacts, or habitat loss.
- Given the arid and seasonally harsh weather conditions in eastern Montana, loss of one critical habitat component in a given area (e.g., a water source) - can render a larger area uninhabitable for a species/population. Seeps, springs and other near-surface water sources are a critical habitat component for wildlife. Since such water sources are expected to be lost to groundwater draw-downs and hydrological effects, alternatives should address the effects that loss of these water sources may have on wildlife populations.
- In the case of territorial and less mobile species, the loss of a major habitat component (wintering area, seasonal breeding pond, brood rearing area) could result in outright loss of individuals or populations over a broader area.

- Page 4-103, Table 4-34. Use the 500-year floodplain instead of the 100-year. Raptor nests: distance should be ½ mile for ferruginous hawk and golden eagle. Can be 1/8 mile for osprey and Swainson's hawk. Use the bald eagle plan for that species. The bald eagle plan (Montana Bald Eagle Working Group 1994) should be reviewed and cited in this document.
- Page 4-103, Table 4-34. Why the 80 acre threshold for prairie dogs? No literature citation or rationale is presented. Protection of all prairie dog towns is recommended in order to reduce the likelihood of listing under ESA.
- Page 4-104, lst full paragraph. The statement is made that "Many of the direct and indirect impacts of CBM development on wildlife would occur regardless of the number of CBM wells developed." Maybe **the types** of impacts would be the same, but the magnitude of those impacts is logically going to increase with an increasing number of wells.
- Page 4-104, Impacts from management common to all alternatives. The statement that "Animals displaced by oil and gas development in eastern Montana usually would have more land where they could go in response to disturbance than would animals in western Montana" is made without scientific documentation. Animals in eastern Montana occur where they occur because they are provided with their needs in those locations and not in other locations that are probably already occupied if they are acceptable to that particular species. This statement also assumes that all wildlife is mobile and can move, which is not true.
- Page 4-104, Impacts section, lst paragraph. Mention is made that the potential for impact is related to the timing of disturbance, severity of winter, etc. It seems that this sentence was referring to game species, since hunting pressure is mentioned. This discussion should also talk about non-game species, which comprise 83% of vertebrates.
- Page 4-105, Alternative A. This section needs to address the effects of habitat fragmentation. Also useful would be to review and cite Joslin and Youmans (1999). A copy of this document is enclosed.
- Page 4-108, second full paragraph. The use of Ingles (1965) as a reference for target shooting of prairie dogs in not good. A suggested replacement is: *Vosburgh, T.C. and L.R. Irby. 1998. Effects of recreational shooting on prairie dog colonies. Journal of Wildlife Management 62:363-372.*
- Page 4-108, third full paragraph. It is stated that "Therefore, while important, protecting a ¼-mile radius area around leks as specified in the stipulations, is inadequate to avoid impacts on displaying and nesting birds and does nothing to protect much of the breeding area or any wintering areas. This stipulation is not adequate to avoid impacts on sage grouse from CBM activities. Sage grouse will be impacted by CBM activities that occur within 2 miles of sage grouse leks or within winter range." The stipulation referred to in this quote is presumably the one in Table 4-34 that prohibits surface use or occupancy within ¼ mile of a lek. If the stipulation is inadequate (as the text suggests it is), then it should be changed.
- Page 4-110. With respect to the discussion on amphibians, a good citation to use is: *Maxell, B.A. 2000. Management of Montana's amphibians: a review of factors that may present a risk to population viability and accounts on the identification, distribution, taxonomy, habitat use, natural history and the status and the conservation of individual species. A report to the USFS. Region 1. Order No. 43-0343-0-0224. University of Montana Wildlife Biology Program. 161 pp.*
- Page 4-113. Section under Federal Candidate Species. Three candidate species are mentioned, but only one is discussed. What are the others? They need to be discussed as well. Mitigation measures need to be developed for the black-tailed prairie dog.